

REMARKS

Claims 1, 13-15, 22-35, and 40 were pending in this application. Claims 1 and 35 have been amended to address the Examiner's claim objections. No claims have been added or cancelled. Therefore, claims 1, 13-15, 22-35, and 40 still remain in this application.

Applicants concurrently submit a Declaration Under 37 C.F.R. § 1.132 (hereinafter referred to as "*Declaration*") signed by Mr. Jack Keane, the Chief Technical Officer of the Assignee, Conversive, Inc. The content of the *Declaration* is incorporated herein in its entirety by reference.

Claim Objections

Pursuant to the Examiner's correction requirement, Applicants have amended claims 1 and 35 to substitute the phrase "the response layer or the logic layer, respectively" with the phrase "the response layer or the logic layer, as called for by the signifier." Accordingly, Applicants respectfully request that the object be withdrawn.

35 U.S.C. §103 Rejections

Claims 1, 13-15, 23-24, 27-35, and 40 stand rejected under 35 U.S.C. §103(a) for obviousness by the previously cited Chikirivao publication (United States Patent Application Publication No. 2003/0163783) in view of newly cited non-patent publication entitled "The Elements of AIML Style" by Wallace (hereinafter "the Wallace publication"). The Wallace publication simply discloses a mark-up language for inputting knowledge into chat-bots. Applicants would like to note that the Examiner has not changed Applicants' claim recitation on page 5, lines 14 of the Office Action to reflect Applicants' previously amended "administrator" limitation. Thus, line 14 on page 5 of the Office Action should read: "wherein the logic layer is configured to choose between various responses provided by the *administrator*."

The Wallace publication fails to disclose a "template" and/or a "logic layer" consistent with the claims and across both the Chikirivao publication and the Wallace publication. The Examiner acknowledges on page 5 of the Office Action how "the term "<template>" in the Wallace publication is closer to the claimed "rules" than the claimed

“template”.” The claims have limitations encompassing the terms “rules” and “templates”, thereby indicating that the terms are literally distinguished, as they serve different roles and embody different concepts. Thus, it can be seen that an inconsistent reading of the disclosure of the Wallace publication is applied to the claims at issue.

Specifically, in §5(a) of his *Declaration*, Mr. Keane declares:

[A]s set forth in the present application, the purpose of a template, is a way to create a specific rule or rules, based on a pre-defined form (the template), containing markers for additional information needed to define the rule (signifiers), as provided by the administrator. In the Wallace publication, AIML tags, which are equated by the Examiner with the Applicants' signifiers, serve a very different role, in that they are only activated during the execution of the AIML rules to control the flow of the program defined by those rules. AIML tags are an exclusively run-time control structure. In contrast, the signifiers in the Applicants' templates, are an exclusively compile-time structure, as they are used to construct run-time rules. There is no disclosure in the Wallace publication with respect to a mechanism that would correspond to a compilation of run-time roles from a partially-defined template. Every feature described in the Wallace publication is part of the run-time system. The use of the term “template”, which appears in AIML, means something completely different, as it is the term used to describe the form of an output or reply in a rule. Therefore, it is not the case that AIML tags denote places where rules “need information”, as an AIML tag denotes a control branch in the execution of the rule, which may cause recursion, output, or even external code execution.

The Examiner also equates AIML tags with the “signifiers” set forth in the claims. However, equating the two fails to take into account the substantial differences in purpose and action between signifiers and AIML tags. Contrary to the Examiner's assertion, AIML tags do not indicate that a rule “needs information.” Instead, AIML tags simply act as programming directives, as supported by the disclosure of the Wallace publication on page 12 reprinted below:

More generally, AIML tags transform the reply into a mini computer program which can save data, activate other programs, give conditional responses, and recursively call the pattern matcher to insert the responses from other categories.
Most AIML tags in fact belong to this template side sub language.

The Wallace publication refers to tags as a “sub language”. AIML tags do not have the property that causes the information to be “linked to the rule”, as is required by the claims. The signifiers of the present invention are markers that identify a specific piece of information “such that the call for information invokes a process to select the information from a corresponding field in the template so that the information will be linked to the rule.”

With respect to the logic layer limitation of the claims, Mr. Keane declares in §5(b) of his *Declaration*:

The logic layer of the present invention implements a distinct processing step whereby a specific response can be selected from a set of equivalent responses in a principled manner, which may reference information not present in the user input to the system. Neither the Chikirivao nor Wallace publications show this feature. The Wallace publication describes AIML, however, AIML is a language without the explicit notion of the claimed logic layer, as responses in AIML proceed directly from rule input matching, or recursion on the input matching. It is incorrect to equate the “Graphmaster” of the Wallace publication to the claimed logic layer because the Graphmaster is a representation of the input space matching capabilities of a particular AIML definition set (e.g., A.L.I.C.E.). There is no explicit logic layer in AIML, as the output is determined by the user input and the rules. In the present invention, the matching of an input is only the first step to determining the appropriate response, followed by the processing of the logic layer.

The AIML model does not have an explicit logic layer, as found in the present invention. The <random> tag grouping in AIML allows an implicit variation among equivalent outputs through random choice. There is no disclosure, teaching, or suggestion in the Wallace publication of a mechanism equivalent to the claimed logic layer that is able to take additional information, if needed, and perform a defined computation that can determine the selection of an output from among a set of outputs.

In AIML, the <srai> tag allows for a recursive rule definition (See page 13 of the Wallace publication). While this allows considerable flexibility in the form of rule definition, it does not, in and of itself, introduce any functionality in the matching power of AIML that could not be replicated by finite-length non-recursive matching rules. The <srai> tag does not provide the concept of choice over several possible outcomes *all appropriate for a particular input, but selectable by additional information not contained in the input.*

Accordingly, the claimed concept of a “template” and “logic layer” in the context of a consistent reading of the other limitations of the independent claims and the claims depending therefrom is not disclosed, taught, or suggested in any of the prior art of record. In light of the aforementioned arguments made with respect to the anticipation rejections under the Wallace publication, whose underlying anticipation teachings, now refuted, are used for rejecting at least the independent claims on an obviousness basis in view of the teaching of the Chikirivao publication, Applicants hereby respectfully requests that the Examiner withdraw the overall obviousness rejections.

When undertaking an obviousness analysis, the Examiner is also required to take into account secondary considerations relation to applicant’s invention. *Graham v. John Deere*, 383 U.S. 1, 148 USPQ 459 (1966). The Court of Appeals for the Federal Circuit stated in *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538, 218 USPQ 871, 879 (Fed. Cir. 1983) that “evidence rising out of the so-called ‘secondary considerations’, such as commercial success, must always when present be considered en route to a determination of obviousness” (See also *KSR v. Teleflex*, 550 U.S. ____ at 2). In §3 of his *Declaration*, Mr. Keane declares:

The claimed invention was first commercialized in July of 2003. The Assignee has commercially pursued deployments that incorporate the claimed invention. With respect to enterprise deployments, the Assignee [has] offered, since as early as 2005 and through the present, implementations containing the claimed invention to various companies including PSEG (a major Northeastern U.S. electric and gas utility company), Qantas Airlines (the leading Australian air carrier), and the University of Phoenix (one of the largest higher educational institutions in the world, enrolling approximately 400,000 students). Currently, the Assignee is in contract negotiations to deploy its product through Sutherland Global Services, a company providing business process outsourcing services to Fortune 500 companies, including Dell. The estimated total sales of products and deployments that incorporate the claimed invention are at least \$150,000. The foregoing information is indicative of the commercial success of the claimed invention.

As set forth in §4 of the *Declaration*, customers utilizing the claimed invention reduce their costs while improving their online customer service. As discussed in the *Declaration*, as an example, cumbersome manual processes have been replaced with automation-assisted online processes, thereby reducing errors and increasing customer satisfaction.

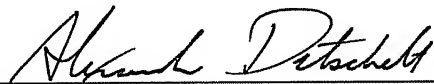
For the foregoing reasons, Applicants believes that the subject matter of independent claims 1 and 35 are not rendered obvious by the Chikirivao publication in view of the Wallace publication or any other prior art of record. Reconsideration of the rejections of independent claims 1 and 35 is respectfully requested. Claims 13-15 and 22-34 depend from and add further limitations to amended independent claim 1 and are believed to be patentable for the reasons discussed hereinabove in connection with amended independent claim 1. Claim 40 depends from and adds further limitations to amended independent claim 35 and is believed to be patentable for the reasons discussed hereinabove in connection with amended independent claim 35. Reconsideration of the rejections of dependent claims 13-15, 22-34, and 40 is respectfully requested.

CONCLUSION

Based on the foregoing amendments and remarks, reconsideration of the rejections and allowance of pending claims 1, 13-15, 22-35, and 40 are respectfully requested.

Respectfully submitted,

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